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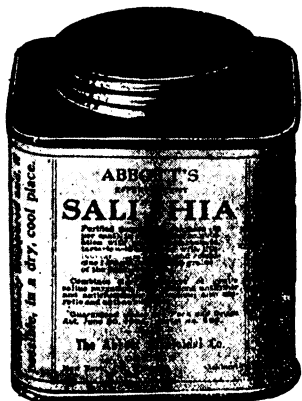
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The American Physician

OCTOBER, 1908

FRANK KRAFT, M. D., EDITOR, CLEVELAND, OHIO

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* * *

IN these articles care has been taken to reproduce the claims and exuberant boasts of the venders, and the contrast between them and the list of banal ingredients which follow is startling.

* * *

THIS juxtaposition of analytical facts and advertising fancies is instructive and sometimes entertaining, the fancy is so free and the fact so simple. To take an instance from one of the secret remedies mentioned in the article published this week. "An absolute specific for all eye troubles and diseases," which "requires great skill in making," turns out to

be a very ordinary red oxide of mercury ointment, and, in spite of the fact that it is said to be "composed of costly ingredients," the actual cost of the material is too small to be expressed in figures.

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ANOTHER contrast between fancy and fact is that between the contempt expressed by the advertiser for the knowledge of the medical profession and the sincere admiration he displays in selecting more or less old-fashioned remedies, some still very commonly used, others already discarded for better by the majority of medical men.

* * *

ONE cure for deafness is an emulsion of oil and glycerine in water, with a little soap, probably added in the form of soap liniment; another, advertised by a person whose studies in physiology and medicine enabled him to cure himself, turns out to be a mixture or emulsion of glycerine and oil, with a little ether and perhaps a little borax in water, but the patient is also advised to use an india-rubber contrivance as a "drum support."

* * *

IT cannot be said that the concoctors of these mixtures and powders and ointments show any particular skill in the compounding of drugs. They recall to mind the estimable Major in "Jack Spurlock, Prodigal," and appear very indifferent to taste and appearance. Some perhaps count on the belief, common among the poorer classes at least, that the nastier a drug the more effective it is. There is at any rate the excuse for this foible that the effort to subdue the repugnance to the draught produces a glow of virtue which may perhaps have a certain stimulating effect on the mind; the patient having not only spent his money but suffered some discomfort, is anxious to justify his faith by assuming himself to be the better for the double sacrifice. It is, however, not only the poorer classes of the community who have a weakness for secret remedies and the ministration of quacks. The well-to-do and the highly-placed will often, when not very ill, take a curious pleasure in experimenting with mysterious compounds. In them it is perhaps to be traced to a hankering to break safely with orthodoxy; they scrupulously obey the law and the Church and Mrs. Grundy, but will have their fling against medicine.

USUALLY, however, people of these classes take to some system. It used to be household electricity or hypnotism or some eccentricity of diet; nowadays it is more often Christian Science. The quacks have taken advantage of this love of heterodoxy to establish direct personal relations with persons attracted by their advertisements.

* * *

SOME of the preparations for deafness that are described illustrate well the elaborate means adopted in some cases to induce sufferers to adopt the articles recommended, and, by asking for reports on their symptoms and progress, ostensibly to facilitate personal attention to their requirements, to extract from them some statement with regard to improvement, real or imagined, which can be separated from its context and converted into a "testimonial" to aid in obtaining fresh victims. In the articles now reported on, as in those previously dealt with, the disproportion between the price charged and the cost of the ingredients would perhaps be a useful eye-opener to the public who waste money on such things if it could be brought to their knowledge in such a way as to secure attention.

—At a special meeting of the Executive Committee of the American Institute of Homeopathy held in the Coates House, Kansas City, Mo., on Monday, August 17, 1908, the following Preamble and Resolutions were adopted:

Whereas, Our beloved Secretary, Frank Kraft, M.D., has entered into the great transition from his earthly labors into his eternal rest, therefore be it

Resolved, That the Executive Committee of the American Institute of Homeopathy would place on record the very great loss we have sustained. His hearty belief in the principles of Homeopathy combined with his clear-cut ability to express these beliefs made him, at all times, a fearless and uncompromising antagonist. His genial and lovable nature made him the lasting friend of all who came to really know him.

Resolved that these Resolutions be placed upon the minutes of the American Institute of Homeopathy and a copy be sent to the family of Dr. Kraft, and also be published in the medical journals.

(Signed)— WM. DAVIS FOSTER,
THOMAS H. CARMICHAEL,
J. HENSLEY,
J. RICHEY HORNER,
THOS. FRANKLIN SMITH,
J. H. BALL,
Executive Committee.

THE ADVANCEMENT OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.*

BY HERBERT F. PITCHER, M.D.

Ladies and Gentlemen and Fellows:

It is with feelings of pleasure and gratification that I greet you all here to-day, for I know every member present has made a great effort, a great sacrifice to come here; not from curiosity or to seek pleasure, but for an earnest purpose and to keep out of the rut. We come here with the purpose of giving our best thoughts, and taking away with us the best thoughts of others.

I have letters from members who say they receive more help and inspiration from attending the meetings of this Association than from all the other medical societies to which they belong. If members who annually attend these meetings find them so valuable, why then do we not have a larger attendance?

I have realized for a long time, that although this Association is valuable to a few, yet as a national body, as our name implies, we fail in our mission.

We are a therapeutic society, the one missing link in the practice of medicine. All of the other departments are making satisfactory progress, but when a remedy is sought the profession throws up its hands in despair. We could select a dozen drugs from the United States Pharmacopeia, and practice medicine as successfully as with the thousands of official remedies placed within its sacred pages. The world's most prominent and broad-minded physicians are to-day drug nihilists. Dr. Frank Billings says, "Modern Medicine has established the fact that specific medication for disease is very limited. The specific sera, used as antitoxins and bactericides, organo-therapy in a very limited field; quinine in malaria, and mercury and the iodides in syphilis, comprise the list." A rational use of drugs, in simple form, to stimulate or to maintain the physiologic function of organs embarrassed by unhygienic habits, by an acute infective process, or partially crippled by a morbid anatomic process is the chief reliance of the physician to-day. Do not understand me to say

* Presidential address. Read before the eighteenth annual meeting of the American Electro-therapeutic Association in New York, September 19, 1908.

there is no place for drug therapy. It will always occupy a most useful place at the sufferer's bedside. The man who starts in general practice without his pill box will soon discover his need. But the physician of the future will use fewer drugs and more brains, his training will be more complete, his resources greater.

His laboratory is at hand where bacteriological examinations are made to aid or confirm his diagnosis; also microscopical and chemical examinations, the study of the blood corpuscles, the estimation of hemoglobin, the variations in blood pressure. Radiographic films will disclose the presence and location of foreign bodies, the position of fractured and dislocated bones, incipient pulmonary tuberculosis, cardiac enlargement, gall bladder and kidney calculi, and many other pathological conditions; and the incandescent lamp will light up the different cavities and orifices of the body. But with all of this armamentarium let him not neglect that which was the stock in trade of the old-time physician—observation. Only he who has practiced medicine for many years, knows its value.

The present generation should be very thankful that the science of medicine is doing so much to prevent sickness and preserve life.

In place of the drug of which we know little, and the action of which we know less, we have the different electrical currents which are applied directly to the diseased conditions; the Roentgen ray, radium, phototherapy, vibration therapy, hydrotherapy, the artificial hyperemia methods, psychotherapy—of which we hear so much and know so little; the antitoxins and vaccines with the opsonic index, a method which is gaining a firmer foothold as experimental research broadens.

The animal extracts also fill a useful place in many pathological conditions. In looking over the pages of the journal of that great representative body of medical men of America, one is struck with the dearth of remedial measures. Hygiene, preventive medicine, pathological findings, bacteriology, etiology, and diagnosis are all great and essential studies, but the sick man asks with reason, "What are you going to do for me?" A doctor measured out two portions of medicine, and remarked to the patient, "If No. 1 does not cure you take No. 2." The patient aptly replied, "Why not take No. 2 first?" Sick people want the very best remedy, and if we do not treat them

successfully they are going to some other doctor. This brings us to the problem of how to become successful practitioners. The quality of success is not meted out to some few fortunate individuals. "It is within ourselves that we are thus and thus." "Luck" means desire and determination; the will to do and dare, to see the opportunity and grasp it with bulldog tenacity.

The very best that is in a man must go into his work. Ability, skill, and conscientious effort must not be grudgingly expended. Every moment must contain the indulgence of a wish; must be a stepping-stone of an ambition. The best skill and strength invested in the effort will return dividends in an increase of skill and strength for future work. This means success.

The ultimate aim and duty of the true physician is to prevent disease and cure sickness. The great awakening in this country to sanitary measures is already having a beneficial effect. our profession is the legitimate medium through which sanitation and prevention of disease is disseminated. We are not only physicians, we are teachers and philanthropists. We are the only profession who freely give away our own livelihood. Our incomes may not increase, but our glory as humanitarians will constantly grow brighter.

In spite of our watchful care and teaching, sickness will always be with us. In our fight against disease we are free to choose any method, any remedy known to the world. We who are assembled here, who have delved deeply into the lore of the art and science of medicine, sincerely believe we are studying the best method for relieving the ills which flesh is heir to.

Medical science to be useful must be practical. We are dealing with human beings, every one a little different from the other, consequently we cannot treat any two persons just the same, although they may have a disease which is called by the same name. Thus must we study not only the disease but each particular specimen of the human family.

In becoming electro-therapeutists, we do not necessarily neglect any remedy true and tried. We should keep in mind all useful and practical remedies from the time of Hippocrates; for there is always a time for everything. Success in the practice of medicine lies in close observation and the alertness with which the physician applies the right remedy at the right time.

There is an old belief that nature furnishes a remedy for every ill. In that belief I fully agree, for who would have believed years ago that electrical forces would have accomplished the wonders they are doing to-day? Who could have imagined the miracle of the Roentgen ray, the results of phototherapy, and that mysterious substance known as radium which has upset the theories of the savants of all ages? We think of all of those great discoverers from Franklin, Galvani, and Faraday down to Prof. Roentgen, Niles Finsen, and the Curies, and we wonder upon whose brow is fame next to place a laurel. We are all workers, investigators along lines that may bring to us discoveries which may help to mitigate the sufferings of our fellow-beings. Let us then continue our work with the true scientific spirit. Although we may not become famous ourselves, we may be instrumental in helping to build that monument to our profession, the noblest in the world, the most useful and self-sacrificing, the monument for the alleviation of human suffering than which there is nothing nobler, nothing greater.

Electrotherapy is a progressive science; we are as yet beginners in this great study. We do not expect to reach perfection, we do not expect to accomplish the task of placing before the world a remedy which will cure all ills, but every man is expected to do his duty, to be one of the builders of this noble monument. Therefore, gentlemen, with this high conception of our profession for a standard, let us work with a will and the single purpose of elevating the practice of medicine to the science of medicine.

This Association was established eighteen years ago and as you are all aware, it was the first of its kind in existence. Now there are several societies, not only in this country but in other parts of the civilized world. In 1905 the International Congress of Physio-Therapy was formed; last year it met again in Rome, and the next meeting will be in Paris. In reviewing the transactions of those meetings and noting the distinguished representatives from all parts of the globe, one gets some idea of the rapid advancement that electrotherapy is making.

In this country we have several societies; one of the latest to be formed, and I may say the most prosperous, is the New England Electro-Therapeutic Society, of which we are justly proud. All of the members of these branch societies should be enrolled

under the banner of the Mother Society—The American Electro-Therapeutical Association. Until within a few years the membership of this Association was limited to one hundred and fifty. At the present time we number only about two hundred members. With the splendid opportunity of this Association for scientific research and advancement of electrotherapy, I cannot understand the reason of this stagnation, unless we lack ambition.

With the thousands of good, reliable physicians using physical methods to-day, there is no reason why a large proportion of them should not become useful, active members of this society. "In union there is strength," is as true of this society as of others. We not only can help non-members, but a large membership brings more dignity and power than we possess at the present time. We could then blot out the disgrace of the Electro-chemic quacks, and the advertising X-ray Electro-Therapeutic doctors, "A consummation devoutly to be wished."

The name of this association means more than the mere words imply. It stands for all that is the highest and best in electrotherapy, it stands for progress and scientific advancement, and every member who has the interest of the association at heart will become an enlisting officer and bring in the men who are honestly seeking a rational method of treating disease. Within a few years we should number a thousand members, and still there are more to follow.

Right here I would like to mention a subject which is of the utmost importance; it is a matter which should come up before the association for discussion and be voted upon at once, and that is, the change of this Association to a corporate body. We do not expect to be defendants in a suit for damages, but it is a wise saying, "In times of peace prepare for war," and we should realize that in the event of adverse litigation *every member* of this society would be personally liable for the full determined damages. This risk would be avoided by the simple procedure of forming a corporate body.

In two years we should celebrate our twentieth anniversary, and it is not too early to begin to prepare for the event. We should let the world know that we are alive. I would like to hear the sentiments of the members with regard to that event. And now that I am on the subject of meetings I would like to speak of the matter of a change in the time of our annual meet-

ing. I have discussed the subject with a number of prominent members, and they agree with me fully, that the most fitting and convenient time to hold the meetings is in or about the first week of June. My reasons for the change are that about the time we hold our meeting the weather is generally very hot. We have just returned from vacation and have fairly started business, which is interrupted. Then June is the proper time for medical meetings; we need a short rest and change after our strenuous winter and spring work. And June is usually very healthy, which would enable us better to leave business and would tend to bring a larger attendance. If thought advisable we could meet next June at Atlantic City where the American Medical Association will hold convention, antedating our time of meeting two days in advance of theirs, which would make our last day their first or vice versa. Then those who wished could remain through the A. M. A. meetings. The commercial exhibit is very large at those meetings which would be increased if both conventions were held in the same location, all of which would increase attendance, and would bring us more prominently before the public and the profession. This is a matter I would like to have discussed and voted upon at this meeting.

Since the foregoing part of my address was written I received a letter from a much esteemed member who says, "I am opposed to a large membership. I think we can do better work, and work that will count and carry more weight in a small society than in a large one. Quality instead of quantity should be our aim." If we do not have a quantity to choose from, how are we to obtain our quality? It would be difficult to keep up the high standard of our society if there is a small membership—it would lack dignity. With the tidal wave of physical methods sweeping over the world at the present time the name of the "American Electro-Therapeuttic Association" would sound ludicrous; it would be the "tail trying to wag the dog."

I agree fully with my dear friend that we should exercise the utmost care in admitting undesirable men. We want the best, and we can get them. The men who use quackish methods in any way should be debarred. Physicians who take up physical methods from a commercial standpoint should be discouraged.

We want the honest, hard-working, conscientious physician who will honor the association by honoring himself.

If we are not to have a larger membership, who is to follow in the footsteps of our lamented Newman and Herdman? Where are we to find another Morton, a Cleaves, Massey, Dickson, White, Morse, Bishop, Snow, Titus, Nunn, Brinkmann, Geyser, Gibson, and many others of illustrious fame? These are members the association is proud of, and their works will live after them. We would find it very difficult to fill their places, but there are a great many honorable, well-qualified physicians in this country using physical methods who would gladly join us if they could be benefited by so doing. I remember when the American Medical Association was a small, struggling society. At that time I was urged to become a member. When I mentioned the subject to the Secretary of our district society he said there was no advantage in belonging to it; didn't amount to anything. Does it amount to anything now with its thousands of active members?

NOTHING SUCCEEDS LIKE SUCCESS.

This is a mutual benefit society. We need a large, progressive membership, and non-members using physical methods need us. If we are to make the association desirable we must make it valuable. The most notable advancement in that direction was made at our last annual meeting, when the resolution was passed to investigate and study the therapeutic actions and indications, and methods of applying physical measures. Committees with a chairman were appointed for each department, notice of which has been printed in our Journal since October. I also sent a circular letter to each chairman and members of committees to prepare reports for their respective departments.

A meeting of the chairmen of committees was held in this building June 13 for conference. There were some desirable reports, and others reported progress, with the promise of preparing a full report for the annual meeting. There was some diversity of opinion with regard to the manner of making the reports, and some members thought so many committees confusing. But all agreed the resolution a good one, that the physiological actions and therapeutic effects of the different physical measures should be closely studied, and some standard

of results determined. With the wide diversity of opinion in the use of the different physical methods employed at the present time, we cannot expect definite results the first year.

Investigation and research in a systematic manner should be carried out by all the members of the association. I would suggest that the consent of members appointed for committees be obtained before the lists of committees are made up. Then if a man does not intend to serve he could so inform his chairman; much valuable time and correspondence could be saved in that way.

I would also suggest that members composing a committee of a department be chosen from a locality where they could be in touch with each other, in order that they could confer at frequent intervals, while a meeting of all the chairmen could be held in New York City sometime before the annual meeting. In this way we could come to some definite conclusions in time. If we are to expect definite results we must use definite means to obtain them, use the most scientific and accurate instruments, keep a record of cases, the diagnosis, pathological findings, the therapeutic methods, technique, and results, with remarks of interest. This means work, but it brings results, and it means progress. There is nothing in the world which gives a greater sense of joy and satisfaction than the consciousness of progress made by your own honest endeavors. Once more I want to impress upon each member the necessity of scientific investigation. Do not work for personal aggrandizement alone but for the advancement of science. Give the association the benefit of your studies. Let every theory, however absurd it may appear at the present time, have the opportunity of vindication. Banish all feelings of avarice, prejudice, and jealousy, and let our Society become a Brotherhood with the motto of "One for all and all for one."

50 Merrimack Street, Haverhill, Mass.



THE ELEMENTS OF PHYSICAL THERAPEUTICS.

BY WM. BENHAM SNOW, M.D.

*(Continued from p. 342.)*CHAPTER IV. *(Continued.)*

SOURCES OF RADIANT ENERGY.

In hospitals and offices where invalids of all types are to be treated a *reclining bath* possesses an advantage if high temperatures are required, particularly in patients having impaired cardiac force, because with the patient reclining there will be no danger of syncope during the administration; whereas in the upright cabinet the dangers of this sort will preclude the use of the light bath with a large class of patients for which its use is indicated. For the family light bath cabinet, however, in most instances, the *upright cabinet* would fulfill the purpose.

The *incandescent bath* possesses the same advantage for therapeutic administration over the arc light that the large incandescent lamp does over the high candle power arc light, as previously stated; because while it is rich in the penetrating luminous rays and heat radiations, it is devoid of the irritating effects of the higher frequencies of the arc light, particularly the ultra-violet; and also emanations from the arc of the nitrous acid, the fumes of which are very irritating as they escape from the cabinet, or when the cabinet is opened—producing disagreeable irritation to the lungs and fauces of the patient when the fumes are inhaled.

If the *arc light* is possessed of any advantage in therapeutics over the incandescent for the treatment of any class of cases, it resides in the fact that the reflex effect from the irritation of the skin by the ultra-violet radiations, or that the action of these radiations upon the skin, possess some particular advantage in certain skin conditions. For the administration of radiant light and heat for general tonic and metabolic effects, the radiations having the higher frequencies filtered out are in all instances to be preferred.

Special types of light bath cabinets have been constructed by various manufacturers to meet the indications for the treatment of most conditions.

The writer's bath cabinet shown in Fig. 13, is constructed by E. B. Meyrowitz of New York and was designed to treat patients in a recumbent position. The bath is provided with

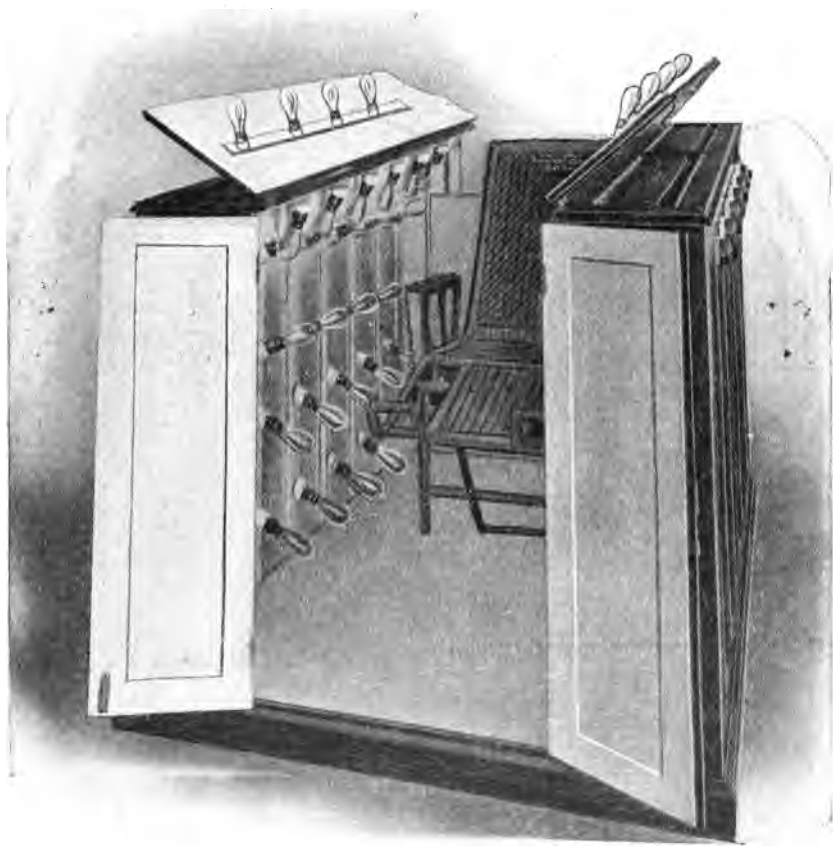


Fig. 13 —Author's Bath Cabinet.

60 sixteen candle power incandescent lamps, and with an open work chair upon which the patient reclines. A door is placed at the one end, and folding doors over the top, with an opening for the protrusion of the patient's head at the opposite end.

The bath cabinet shown in Fig. 14 is manufactured by Frank S. Betz of Chicago and has the advantage of a sliding table

which permits the patient to be pushed into the bath and withdrawn at the end of the treatment. The lights in this bath are arranged on all sides and beneath, the patient reclining upon the slatted sliding framework.

The upright bath cabinet shown in Fig. 15, are manufactured by the Kny-Sheerer Co. of New York, and are constructed



Fig. 14.—Betz reclining bath cabinet.

for giving the treatment in an upright position. The bath is provided with mirrors and a variety of colored bulbs, and is exquisite in its details of construction.

Another type of bath cabinet has been manufactured by Spear-Marshall Co. for the writer and consists of a portable collapsible box, the sides of which are made of three thick-

nesses of veneer, and finished within with white enamel. One end is notched out for the head of the patient. Over the cabinet is fitted, when the patient is in position, a glass window. The object of this cabinet is to place it upon a long operating table and the cabinet placed over the patient. It is very con-

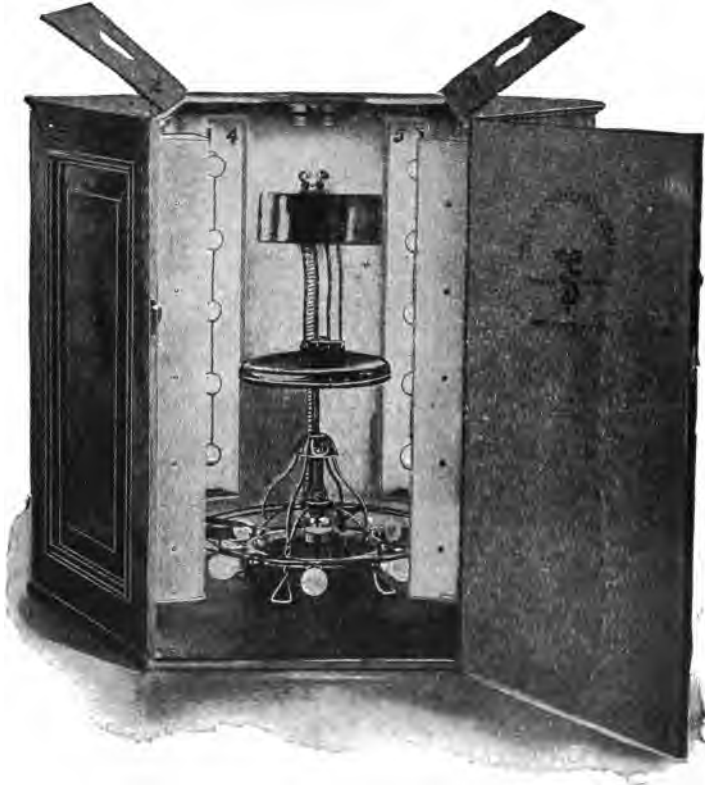


Fig. 15.—Kny-Sheerer upright bath cabinet.

venient for use when space is an element to be considered, and effective in administering combined radiant light and heat and convective heat baths by swinging the five hundred candle power lamp over the window of the cabinet.

CHAPTER V.

RADIANT ENERGY IN THE TREATMENT OF SIMPLE INFLAMMATION.

With simple inflammation in contradistinction to infection, the curative effects of radiant energy will depend upon the ex-

tent and site of the lesion, as well as upon its chronicity. Injuries arising from superficial trauma, as wounds or sprains, of small joints, when treated early, may be largely relieved by the energetic application of radiant light and heat; whereas, in the treatment under similar conditions of large joints or deep-seated injuries, it will be quite inadequate in any event; as also in the treatment of inflammation in which stasis is fairly extensive and well established. It is absolutely useless to expect to relieve established stasis by treatment with this form of energy. For the relief of regions of local stasis, those who are familiar with their action and use turn naturally to the static currents, which by throwing the involved tissues into activity by the induction in them of rapid contraction and vibration, alternating with intervals of rest, which force out the infiltration, induce active metabolism and restore the lymphatic and blood circulation by pressing open the venous and lymphatic channels.

Pain is relieved by the application of radiant light and heat energy in regions of local inflammation on account of the induced relaxation of the tissues, the increased elasticity induced, relieving the pressure upon the nerve filaments, which is undoubtedly due largely to the effect of the radiant heat, as the same effects are derived to a less degree by applications of convective heat. This relief of pain should not delude any one into expecting to effect the cure of an inflammatory process in which stasis is once established for the effect is transitory, not curative. So in the treatment of sciatica, brachial neuritis, or severe sprains, excepting in the earlier stage of the affection, it is useless to expect to afford more than temporary relief from the administrations of radiant energy, whereas the employment of the static electrical currents insures prompt relief and the ultimate cure of these conditions, when accessible; i. e., when not within the chest or pelvis. Radiant light and heat, however, in connection with the static currents, are useful in the treatment of the forms of neuritis and joint inflammations, but must be employed in all cases, if at all, before the static current is applied, for the purpose of improving impaired local metabolism and nutrition in the tissues involved on account of the lowered function of the local nervous mechanism. Applied in these conditions it affords temporary relief from pain, but is not instrumental in removing the *bête noire* of simple in-

flammation—inflammatory stasis; its only function being to prevent inflammation at the outset; but when once established, radiant light and heat are absolutely impotent. When applied after static treatment radiant light and heat relax again the tissues rendered tonic at the site of the lesion where accumulated infiltration, which is causing pain by pressure, has been forced out by the contraction induced in the tissues by the current.

Post-operative use of radiant light and heat employed immediately over the site of the operation is valuable from three points of view: (1) relief of pain; (2) the prevention of scar tissue in the line of sutures; and (3) the induction of active hyperemia which both promotes nutrition, and, by the added increased presence of phagocytes in the region involved, lessens the possibility of local infection.

The same principle applies to the treatment of sites of local operation as well as of recent wounds and injuries, and for the same reasons. In myalgias, muscular sprains, and local areas of pelvic tenderness and pain, the beneficial effects of light and heat radiations will depend most upon the relief of disturbances of metabolism or its effects upon the presence of local infection.

The method of treatment of simple inflammation, as well as of the infectious type of inflammation, consists in the localized application of light either from a small hand lamp of 50 to 100 candle power when the affection is slight, or the employment of a lamp of higher candle power for constitutional treatment or over large areas. In the treatment with light under these conditions, the application should be made at a distance that will give as high a temperature as the patient can withstand. The disengaged hand of the operator or the hand of the patient, when frequently passed over in contact with the surface during the administration of radiant light and heat, affords temporary relief, making it possible to keep up the treatment more energetically than otherwise. In applying radiant light and heat, the application should not be made with the lamp in a fixed position, but by constantly moving it about or swinging it to and fro over the involved area. The light should be employed in this manner for two reasons. (1) As great a degree of temperature cannot be applied persistently as interruptedly, and (2) because administered interruptedly, waves of contraction are induced in the tissues in response to the stimulating

effect of the intense heat, and in the interval before the subsequent application there is a relative relaxation. The stimulation to contraction and intervening release, operating to a degree in the same manner with the alternate contraction and relaxation, occurring with the application of the static wave current, and so effecting to a less degree the relief of local inflammation and stasis by tissue drainage.

CHAPTER VI.

RADIANT ENERGY IN THE TREATMENT OF INFECTIOUS PROCESSES.

The greater field of usefulness of radiant light and heat energy is found in its remarkable potency when associated with its congeners—the x-ray, high frequency currents, and convective heat in the treatment of infectious inflammation.

The attention being paid at this time to the subject of hyperemia, as influencing inflammatory conditions, has until recently ignored the important fact that local phagocytosis is the important effect, to which the writer called attention editorially in *THE JOURNAL OF ADVANCED THERAPEUTICS* for March, 1907, and in a paper published in the same journal in January, 1908.

Probably no investigation of recent days has been so full of significance and so fruitful of a revolutionary procedure as the treatment of local and general infections. The work of Wright in the discussion of opsonic indices of resistance, has opened up a new point of view in connection with the all but established theories of Metchnikoff of phagocytosis.

The fact that a region is rendered intensely hyperemic by the application of an agency which brings into the field of infection an increased influx of fresh arterial blood, rich in phagocytes, favoring a positive chemiotaxis, as previously suggested by the writer, establishes rationally the indication of such measures as accomplish that effect for the treatment of all types of local infection. If an increased influx of blood were associated with a coincident relief of the induration which walled in an advanced infection, the employment of measures which induce local hyperemia would be involved in an element of danger, lest the infection might thereby be dissemi-

nated. In the relaxation of tissue which does occur, however, there is sufficient influx of fresh blood to the seat of the infection, carrying with it fresh phagocytes, to unfavorably affect the existence of the germs in an infectious process without danger.

The means at present in vogue by the votaries of the methods of Bier, are fraught with elements of defect not found in the relief of local infection by the x-ray, light and the high frequency currents. Their errors reside in the facts, that (1) powerful suction produces a degree of mechanical injury to the local area, and (2) because the method by bandaging, cutting off the return venous circulation and preventing a normal influx of arterial blood, creates a deficiency of oxygen in the tissues does not favor positive chemiotaxis; because of the venous stasis induced. Whereas in the employment of radiant light and heat, two effects are produced unfavorable to the germs in the localized area, the tendency to which is opsonic: (1) the actinic action of light is adverse to the activity and energies of many types of bacteria, and (2) that all germs which exist upon the human body develop most favorably at the body temperature of 98.4 but are inhibited by the energetic application of radiant light and heat, while the blood stream, which is passing in and out of the area, is cooled at the periphery, returning constantly in a fresh stream to the site of involvement, thereby giving advantage to the phagocytes with adverse conditions exerted upon the elements of infection—in effect opsonic. It is furthermore probable that under the applications of radiant light and heat the phagocytes are more active in their war upon the bacteria.

It is already a well-demonstrated fact that whether these theories as to the action of radiant light and heat upon the germs and phagocytes are correct; or that if not for these reasons, given, they are for some other reasons; for clinically the effect upon local infection of these applications is that such processes do yield to the combined application of radiant light and heat, convective heat and the high frequency currents all of which induce intense local hyperemia, and that the promptness and energy with which the effects are obtained, are accentuated by the previous applications of the Roentgen ray, which probably is due to the fact that the ray sterilizes or inhibits the activity of the germs localized in the area of infec-

tion, while the elements of the blood which are shielded, except as they pass rapidly across the field of irradiation, are not adversely affected by the Roentgen ray.

It is the writer's practice in the treatment of infectious conditions, to make a prolonged—twenty to thirty minute—exposure to the Roentgen ray, making use of the energy usually employed in the treatment of skin diseases for the purpose of inhibiting the activity of the germs and then permitting an interval of twelve to eighteen hours before the administration of the radiant light and heat, or high frequency current or both. The germs thus brought into a state of complete inhibition, increased by the delay, are in a condition for the phagocytes brought fresh into the area, and in larger numbers, with the hyperemia induced by the radiant energy, to devour them with a greater energy. By this method it is possible to abort any accessible pus process prior to fluctuation.

In cystitis, and the deeper-seated pus processes, the employment of the x-ray should be persisted in with shorter exposures on alternate days until the pus has entirely disappeared from the urine. These observations are based upon a series of clinical results obtained by the writer in the treatment of carbuncles, furuncles, cystitis, and other septic infections, without an unsatisfactory result during a period of five years.

It can be truly said that in the applications of radiant light and heat, the x-ray, and high frequency currents we possess the greatest means for coping with a large class of infectious conditions, particularly the streptococcic and staphylococcic infections. We have reason to believe that the same rule applies equally to tuberculosis and gonorrhea, and to a greater or less degree in all other types of inflammation arising from infectious causes. It is a subject fraught with the greatest possibilities and deserving immediate serious investigation, and general adoption.

CHAPTER VII

PHYSIOLOGICAL EFFECTS OF RADIANT LIGHT AND HEAT.

In the consideration of the indications for radiant energy in therapeutics, a rational basis for its employment calls in each class of conditions, for a consideration of the relation of

the physical properties of the agents to their physiological effects upon the tissues.

The forms of radiant energy penetrate the tissues to varying depths producing direct physical effects, vibratory in character, and secondary chemical, nutritional and reflex nervous influences upon metabolism and the nervous mechanism. When radiant energy impinges upon the tissues without passing through, heat is evolved in the tissues so influenced, in contrast to the Roentgen ray, which passes through the tissues as light passes through the window pane, without the evolution of heat.

When heat is evolved at the periphery from the impinging of radiant light and heat radiations, the effect is not only local but general. A glow of warmth is transmitted throughout the body by the heated blood stream, which also, when long continued or extreme, awakens the activity of the excretory channels through the sweat glands, and maintains the body temperature at normal, through the cooling influence of the absorption by the latent heat of evaporation, thereby setting up a complex influence upon metabolism, far-reaching in its influences, especially so, when these processes so essential to healthy existence are dormant.

It is not heat alone that influences metabolism, but the penetrating luminous rays, undoubtedly, act directly upon the blood cells in the circulating streams, and this influence becomes marked as the irradiated tissues become hyperemic under prolonged exposures, and in a short period of time the blood of the whole body has been exposed to the oxidizing and sterilizing influences of light. No prolonged local administration of radiant light and heat can therefore be considered local, only; for the effect is coincidently general and beneficial in all conditions of impaired or perverted nutrition and poor metabolism.

The local influences of radiant light and heat from the usual sources are undoubtedly due most to the heat effects, very similar effects being induced by convective heat as shown in another chapter.

The hyperemia induced with the vasodilatation is undoubtedly the effect which exerts the greatest local influence upon the two types of inflammation; in the simple type relaxing the tissues, relieving tissue tension and pain; while in infectious inflammation vascularization with relaxation and

softening permits a greater supply of fresh arterial blood to invade the infected area carrying Nature's scavengers, the phagocytes, under favorable influence of oxidation where their presence is demanded. Where infection is present there is the additional advantage from these radiations derived from the destructive or, at least, inhibitive action of radiant light and heat upon the germs walled in in the field of infection.

Clinical experience, in this connection, justifies the assumption that radiant and convective heat and radiant light, to which the higher, less penetrating frequencies are not essential, increase most favorably local phagocytosis and coincidentally render the germs inert; a combination of circumstances always effective when employed with energy in the first days of superficial infectious processes, and advancing recovery at any stage.

It has to all intents been demonstrated by Neils Finsen that when the tissues are rendered anemic during exposure to ultra-violet radiations, their action is destructive superficially of germ life. It was the object of Finsen and his cotemporaries, however, to carry the exposure to the extent of reaction; in other words, to the extent of profound hyperemia which, in the light of effects produced in the treatment of infection under conditions of hyperemia, would indicate an important part as played by such tissue engorgement. On the other hand, the best results were obtained when the tissues were rendered anemic during treatment, manifestly due to the antigermicial action of the ultra-violet radiations. The final result is undoubtedly due to a combination of the two effects, germicidal and the induction of the increased local phagocytosis of hyperemia.

It will be observed, therefore, in the treatment of all local or constitutional conditions by radiant light and heat radiations, that the effects are due to the same physiological effects, which will be summarized as follows:

I. The effects upon metabolism, local and general, are due to (1) the induction of increased local activity of elimination and tissue building; (2) diffusion of heat throughout the body by the channels of circulation; (3) by the increased general perspiration induced by general diffusion of heat, when exposures are extensive and prolonged; (4) increased oxidation from heat induced, and the local action of radiant light upon

the blood in the dilated capillaries; (5) reflex effects upon remote spinal centers due to peripheral stimulation of the end neurons by heat and light radiations.

II. The effects upon simple inflammation, unaccompanied by infection, is (1) to induce general tissue relaxations with relief of pressure and pain; (2) by increasing local metabolism and elimination to relieve the tissues of the irritating products of defective metabolism as present in conditions associated with myalgias, infectious arthritis, eczema, and similar conditions; and (3) in conditions of mild traumatic injury, treated promptly after injury, to remove early stasis and cure the condition, but ineffective after stasis with induration is established.

III. In acute and subacute infectious conditions alone, or in connection with other measures which inhibit germ processes or increase local hyperemia or both, to (1) increase local hyperemia in the region of infection with a relative increase of leucocytes—the phagocytes; (2) to inhibit the activity of the germs through the intensity of the radiant light and heat radiations, and (3) to stimulate the elimination of toxic materials, local and diffused, by the induction of perspiration and increase of tissue oxidation.

By these means local phagocytosis is stimulated, the germs inhibited and devoured and the toxic material eliminated.

IV. Derivative effects are induced when extensive exposures are made, rendering the surface hyperemic by prolonged applications of high candle power incandescent lamps over front, back, and sides, or by the arc or incandescent light bath and with the coincident profuse perspiration induced; (1) to lessen the quantity of blood in congested regions and the larger arteries and veins; (2) to lower arterial tension; (3) to relieve an overworked heart; and (4) to coincidentally promote extensive elimination of the locked up products of poor metabolism.

CHAPTER VIII

PRACTICAL METHODS OF APPLICATION OF RADIANT LIGHT AND HEAT.

Success or failure in the employment of radiant energy, depends upon the attention to proper technic as to method, fre-

quency, and duration of treatment. To succeed with any physical agent in therapeutics depends invariably upon the principles of treatment employed, comparisons of results depending as much upon the *men employing them* and the *methods employed* as upon the *diagnosis* of the condition. No physician who will not pay strict attention to the requirements of every case, with intelligent recognition of the requirements of each case, can expect to succeed with the application of radiant energy, or any other physical or other agent. Success here as in most things will depend upon the judgment as to choice of modality, and the knowledge and conscience of the physician in charge. No negligent nor heedless person can obtain creditable results from physical measures. The self-indulgent physician may succeed in some cases with placebos and suggestion, but in the cases that can be cured by physical agents only, an anatomical knowledge and the mechanical sense of the surgeon, together with a willingness to devote the requisite time, technique, and energy to every case, are prerequisites.

Local administrations of light should be employed with the primary idea of inducing local hyperemia, the degree, extent, and frequency of application to depend upon the requirements of the condition under treatment; acute inflammatory affections demanding frequent energetic localized applications, particularly in infectious cases—two to four treatments daily being essential, as in acute otitis media.

For the local employment with a view to relieving *local inflammation* the effects of the radiations from the incandescent lamps are generally to be preferred to the electric arc; (1) because the intense very superficial hyperemia induced by the higher frequencies of the arc light which are filtered out by the glass of the incandescent bulb, induce tanning, interfering with the efficiency of subsequent applications, and, (2) because the risk of injury to the superficies from the higher frequencies, does not permit of prolonged application of the penetrating luminous rays and infra-red or heat radiations, from which the greater benefit is derived.

The hyperemia of the ultra-violet radiations is superficial and intensely irritating, while the hyperemia of the other frequencies is diffused and not irritating, with an added greater

and unquestioned beneficial effect upon local and general metabolism.

The choice of lamps as to candle power will depend upon the extent of the local lesion and the indication for general as well as local treatment.

To circumscribed areas, as about the head and face, or furuncles or carbuncles, the small lamps with parabolic reflector (see Figs. 11 and 12) answer every purpose. When, however, larger areas are to be treated, or when general as well as local treatment is indicated, lamps of high candle power, preferably those which do not focus all of the rays, are to be employed.

For general or constitutional treatment, the lamps of high candle power which project practically parallel rays or rays crossing in various directions are only to be considered, for otherwise either time or thoroughness are compromised, or both.

The method of local administration in all cases as stated elsewhere is best effected with the suspended or swinging lamp, which can be brought close to the bared surface of the body and moved rapidly to and fro, until the surface is actively hyperemic. During the application the disengaged hand of the operator or the hands of the patient may be moved occasionally, in close contact, over the surface, thereby producing a remarkable cooling effect to the surface, and permitting more intense administrations.

The hand of the operator who constantly employs high candle power lamps, which is passed over the body of the patient, should be covered with a glove or towel.

The duration of the application for either local or general treatment should be continued for some time after the first flush of hyperemia appears. In general treatment of the trunk this is important, because a necessary degree of influence is not induced upon the circulating blood until a fair measure of hyperemia is present. In local inflammation of either type it is important to carry the induction of local hyperemia to a greater degree of intensity than for general or constitutional effects.

Dermatitis or blistering is rarely effected by the radiant light and heat radiations from the incandescent light or from the incandescent light or the arc radiations passed through

glass screens. When they do occur, however, as they may occur in very susceptible individuals (cases which are rare), the effect is transitory and should be treated as an ordinary burn; whereas, for the treatment of Roentgen ray dermatitis, no agency is so generally efficient as applications of radiant light and heat—the two conditions arising from opposite causes—one from excess of stimulation and the other from excess of inhibition.

The Local Finsen method for local treatment of lupus and epithelioma, consists of the application of the ultra-violet radiation passed through focusing rock crystal lenses or rays focused by a parabolic reflector and then passed through plane lenses of rock crystal, with the lense or an outer compression lense pressing against the surface of the tissues irradiated, the pressure being employed for the purpose of rendering the tissues anemic.

Adrenalin applied to ulcerated surfaces to which it is impossible to exert pressure, as in the nose, has proved a valuable accessory.

The method of Finsen has been generally superseded, particularly in America, by the more satisfactory employment of the x-ray combined with static and high frequency applications, or the more recent employment of *Effleurvation* as instituted by Rivière of Paris and later reported by Keating Hart under the term *Fulguration*.

General or constitutional treatment, for effects upon metabolism may be administered either with the high power incandescent lamp, the patient reclining or in the light bath.

General Treatment with the high candle power incandescent lamp is administered to the trunk, the application first to one part of the surface and then to another, swinging the lamp back and forth lengthwise over the body until the surface is more or less hyperemic, after which the patient is thoroughly wiped off, dried, and dressed to be vibrated, which should follow, being administered in a systematic manner on the same table, to be followed in a well-regulated institution with an administration of the wave current with a large metal electrode over the abdomen or some other place indicated. Each of these procedures favorably influences general and local metabolism, acting as congeners in impaired constitu-

tional states, and coincidently in trained hands meet local indications as well.

The light bath administered to the patient, seated or lying in the cabinet, is employed for its effects upon general metabolism, and if possessing any advantage over the method described by use of the high c. p. lamps, it is due to the fact that a greater degree of perspiration is induced owing to the accumulation of a high temperature within the cabinet, and that the limbs as well as the trunk are exposed to the radiations. In administering light baths it is usually customary for the head to protrude from the top or one side of the cabinet.

The duration and after treatment will vary with patients and conditions. When profuse elimination is sought, thorough stimulation of the sweat glands is indicated. The exposure should be prolonged to 30 or 40 minutes after which the patient may remain in the cabinet for a longer period or be removed to a couch and rolled in blankets and allowed to perspire for half an hour longer, after which he may be given a tepid shower bath gradually lowered to 60° F., and followed by a rub and mechanical vibration (general), and a static wave current treatment during rest. Instead of the shower an alcohol rub, vibration and static may be administered.

The treatment by vibration when scientifically administered is for many reasons superior to manual massage; followed by the static treatment, for which the electrode should be localized according to indications, which is beneficial in all cases and should replace the period devoted to rest, exhilarating as it does the patient with its tonic influence.

With feeble patients or atonic conditions, the time devoted to the bath should not be prolonged beyond twenty minutes, and always followed when possible by vibration and static or auto-condensation treatment. When the static is not at hand, and the auto-condensation high frequency current can be administered, it is indicated except in failing heart conditions and parenchymatous nephritis, in which high tension which is compensatory would be lowered by auto-condensation.

In conditions of plethora or otherwise abnormally high tension, associated with auto-intoxication, auto-condensation should constitute a routine part of the treatment.

Light baths or local high c.p. incandescent light treatments

may be administered daily or on alternate days according to indications.

During administrations the pulse and temperature should be watched and treatment should be discontinued when temperature reaches $100\frac{1}{2}^{\circ}$ F., or the pulse becomes weak, rapid or irregular. Water may be given *ad libitum* throughout and after treatment, except in conditions of edema, where it is desirable to induce absorption of the serous effusion.

CHAPTER IX

TREATMENT OF SIMPLE INFLAMMATION.

A classification of inflammatory conditions not characterized by the presence of some germ, either as a causative or consequent element, is often difficult. Conditions, however, arising from trauma or other accidents, as thrombosis or embolism, or as a result of faulty metabolism, or chemical or climatic causes, may be properly included in that category. So also may be considered some post-operative surgical conditions.

To consider the therapeutics of various conditions from the point of view of employment of one modality, as of light, would be misleading; it will therefore be considered proper to incidentally refer to other measures when treating of the applications of light to special conditions.

Conditions arising from defective or perverted metabolism as the myalgias, inactive secretions, and secondarily of arteriosclerosis, and perverted conditions associated with a vicious circle as with the reflex or functional neurosis; are remarkably benefited by either local or general administrations of light.

The myalgias arise undoubtedly from conditions of defective metabolism under conditions of exposure to cold, draughts or wetting of the clothing, particularly liable to arise after fatigue in those of inactive pursuits, particularly in the debilitated, and are under the drug régime prone to become chronic, the soreness and stiffness often persisting with exacerbations for years. The affection is confined to no set or group of muscles, but probably most common in the regions of moderate, not of greatest activity, as the back and neck—lumbago and torticollis.

Muscular soreness in the limbs of the active soon disappear

from the influence upon metabolism of such activity, and owing to the general activity are least apt to be involved, whereas the dense less active muscles of the back are most apt to be involved—the regions of lesser activity. Lumbago and torticollis are the most common of the myalgias.

Lumbago, the type under consideration, should not be confused with a type of lumbar arthritis arising from sprain or traumatic injury of the spine.

While in acute myalgias radiant light and heat energetically applied are remarkably efficacious, in the chronic or more severe forms they do not compare with twenty-minute applications of the static wave current with an energy just short of inducing muscular contraction, followed by a few well-directed static sparks. Everyone who has become familiar with the use of static electricity has had success from the employment of the static methods. When used in association with static applications, as in other inflammatory conditions, the light should always precede the static treatment for reasons elsewhere given.

Various writers have reported results from the employment of light in lumbago.

Delvers reports a case of *lumbago* of two weeks' standing cured by the daily treatment of fifteen minutes each with a high c.p. incandescent lamp.

Russels of Chicago reports a case in a patient sixty years of age, of ten years' standing, as cured by sixteen fifteen-minute treatments. The treatments were given daily for six days and afterwards twice weekly. The radiant light and heat was administered with a high c. p. incandescent lamp, held as close as it could be borne. Four months later there has been no relapse. This patient also observed that without other treatment his bowels, which had been constipated, became regular after the sixth treatment.

CHAPTER X

TREATMENT OF INFECTIOUS CONDITIONS.

Specialized employment of radiant energy offers a means in therapeutics especially valuable in the treatment of infectious processes,—tubercular, gonorrheal, streptococcic, or staphylo-

coccic; in fact, in all germ processes in which a local activity of the phagocytes is capable of destroying germ process. The possibilities of success or number or frequency of exposures will vary with the required opsonic index of the individual under treatment. An important principle in the treatment by hyperemia resides in the internal resistance of the subject or patient—the capacity of the leucocyte to seize upon more or less of the germs in the field of infection. It is an important question whether a greater number of leucocytes caused to enter the field of infection, while each consuming a smaller number of germs, may not accomplish the same ultimate result as a smaller number of leucocytes under a higher index, or whether under the employment of agents which inhibit the activity of the germs, as the x-ray, or the other agents, as light and high frequency currents, which increase hyperemia, do not coincidentally inhibit or lower the activity or resistance of the germs whereby the destruction of the germs is facilitated under any condition.

Clinically the writer has demonstrated the truth of each of these propositions, to the extent that it can be confidently asserted:—That in all infectious conditions susceptible to the leucocytic influence, at the proper stage, and in regions accessible to measures which induce intense local hyperemia, under conditions of positive chemiotaxis, it is possible under favorable conditions to abort such processes by destruction of the cause.

No agent of equal intensity is more powerful in contributing the three most important elements favorable to the induction and favorable effect of local phagocytosis than radiant light and heat; and for such favorable action the ultra violet frequencies are not important; *viz.*, (1) the inhibition of germ life, (2) the induction of local hyperemia, and (3) increased presence of oxygen favoring a positive chemiotaxis. The high frequency current produces a deeper, more intense, and more persistent hyperemia, and an inhibitory influence of different character and capacity, but probably farther reaching under favorable conditions, as when the d'Arsonval current is passed through the tissues between two electrodes, but is deficient in the important heat radiations.

The action and uses of the three forms of radiant energy included, may be summarized as follows:

I. The action of the Roentgen ray upon germ life is inhibitory; probably not directly destructive, but by rendering the microbes inert and checking their propagation, render them an easy prey to the phagocytes. To derive the maximum effect from the x-ray in conjunction with other agents an interval of 12 to 24 hours should intervene, following a massive dose of 10 to 25 minutes according to the volume of radiations. With the ordinary static machine of twelve revolving plates making 400 to 500 revolutions per minute, the exposure for a massive dose should be of 25 minutes duration. Employed in this manner the x-ray adds to the efficiency of the means which induce local hyperemia, in the treatment of infectious conditions.

II. The action of radiant light and heat as previously stated is (1) to induce active hyperemia; (2) to increase local oxidation with the induction of positive chemiotaxis, and (3) to inhibit or exhaust walled-in germ process, while the constant influx of cooled blood into the field through the relaxed walls brings leucocytes fresh for the fray.

III. High frequency currents (1) produce profound local hyperemia; and (2) undoubted actinic and other antiseptic effects adverse to germ life.

The three agents may be considered congeners in all cases, and while each when used alone may succeed in selected cases, their combined use in the treatment of most infected conditions, when skillfully managed, is most effective.

It is impossible to consider the treatment of any class of conditions intelligently with the use of one modality, for though in selected cases it may prove efficient, in others another modality or combination may be required. So in a treatise on radiant energy, or any other subject, when the therapeutics is considered, the indication and use of congeners and antagonists of the agent under consideration must be included.

Otitis media, either the acute or chronic forms are conditions which under the *ancient régime* and even in the hands of many modern otologists have too often been left with the possible paracentesis to the further working of the *vis medicatrix naturæ*.

No greater mistake can be made than to fall into this error, when in the light of known possibilities the condition can *always* be aborted in the early stage and cut short in any stage.

The indication is to inhibit the pyogenic bacteria and destroy them by the induction of an intense local hyperemia in the field of infection.

(*To be continued.*)



SOME PIONEER MEDICAL BOOKS.

BY ALEXANDER MACALISTER, M.D.

Few books are of so little market value as old editions of medical text-books. Generally they are not worth buying even at a small outlay. But there is a certain stage of antiquity at which a book begins to acquire a new value in accordance with the old rhyme:

“Keep a thing for seventy years and it a price will bring;
Keep it seven times seventy years, it is a precious thing;
But keep it seven times that again, and give it to the King.”

It is mainly of books whose value is thus enhanced by age, as well as by circumstance, that I desire to write.

“Of the making many books there is no end.” Even if we confine ourselves to the subject of pioneer books as defined just now, our catalogue will prove to be too long. We shall therefore require to limit our selected series, and I propose to take these in three groups: First, the most ancient series; secondly, an intermediate group, being those named as the subjects of instruction in the oldest statutes of the University of Cambridge, A.D. 1396; and, thirdly, a few of the more recent pioneer treatises which may be regarded as the precursors of our present-day text-books.

At the head of the first class stands one which, according to the adage just quoted, has earned sufficient value to be a worthy Royal gift. Its age is a little over the seven times seven times seventy years, as it was written in the days of Amenhotep III, about B.C. 1500. There are about a score of Egyptian medical papyri known, but this is much the largest, consisting of 107 pages, and it is also the oldest medical work extant. It was found in a tomb at El Assassif in ancient Thebes, and was purchased by the late Professor Ebers, for the Leipzig Museum. We turn to it with expectancy to ascer-

tain what was the wisdom of the Egyptians in the art of medicine, but I fear we shall turn away from it with a sense of disappointment. It begins with a high-sounding preface, which, leaving out some repetitions, runs somewhat thus:

"Beginning of the book of preparing remedies for all parts of the body. I come from Anu, with the priests of Hetuat, of the Lord of healing, the King of eternity and protector. I come from Sais with the Mother Goddess who guards me. There is given from the Lord of All, the word to remove all deadly disease of all sorts. There are sections for the head, neck, arms, flesh, limbs, to remove the hurt done by the Ruler of those who have brought diseases on my flesh. . . . It is his guide Tehuti, who gave me this word. Whom the God loves he makes to live. I am one whom the God loves. He makes me live."

Then follows a magical spell to be repeated when the remedies are being prepared. The main bulk of the treatise consists of prescriptions, 811 in number, for diseases of the different parts. Interspersed are short diagnostic aphorisms, about 62 in number, mostly about abdominal diseases and swellings, and there are over a score of magical spells. As a sample of the prescriptions we take one purgative, consisting of equal parts of *uam* seeds, *aneb* herb, *keseb't* fruit, honey, and *s'neft*. We have no means of knowing what these ingredients are, and cannot consequently ascertain their value. Where we can identify them they do not seem very active; thus, in the prescription on page 66, which professes to be the oldest—made by King Teta as a hair-oil for his mother Ses, about 4500 years B.C.—the ingredients are dogs' claws, an ass's hoof, and dates, all boiled and rubbed up together in oil. For blindness, take two pigs' eyes and the fluid belonging to them, eye powder, vermilion and honey equal parts, rub together, and put into the patient's ear, repeating this formula twice: "I have brought this thing and put it in its place; the crocodile is weak and powerless."

One sample of the aphorisms will suffice (page 25): "If ye see one with a swelling feeling like dough, his body is hard under it; he is sick in his *ro-ab*. It is a swelling of his body that find no way out and there is no passage for it out; it is corruption in his body. Nothing comes out. It is the *hesapt* worm. If it be not the worm it feels like a ball. If it empties

he gets well; purge him, and immediately he will get well." Now, *ro* means "mouth" and *ab* "heart," so *ro-ab* is the mouth of the heart; but the descriptions fit most closely with something abdominal, probably intestinal. Ebers guessed that it might be the cardiac orifice of the stomach, but that is purely hypothetical. The prescriptions profess to come from many quarters. One was composed by the Goddess Tefnut, for Ra, and consists of *āmāā* flour, *s'neft* fruit, and goose grease pounded together six times, and useful for all wounds and sickness. Another was invented by Seb, and a third by Isis.

On pp. 99 and 100 there is a treatise on blood vessels, the book of the secrets of the heart; these vessels are to be traced by the finger from the heart. At one time I thought it might be possible to recognize some real anatomical knowledge in this section, but, on careful revision, the whole is so fanciful that no reconstruction of the author's vascular system can come any way near to reality. Four vessels go from the heart to the nose, of which two carry slime; four divide at the back of the neck to nourish the hair; four go to the two ears, the breath of life goes to the right ear, the breath of death to the left; six vessels go to the two arms, six to the legs, two go to both testes, four to the liver, bringing moisture and vapor; four go to the intestine, two to the bladder, and four to the anus. A later recension of the anatomy is given on p. 103, which only gives two vessels each to the arm, to the leg, to the occiput, to the eyebrow, to the forehead, and to the nose.

The last section on p. 103 claims to have been in existence in the days of Hesepti, who lived about B.C. 4000; similar claims to antiquity are found in the medical papyri of London and Berlin, which, though smaller, have a general resemblance to this. This short sketch will suffice to show that the Egyptian medicine at the beginning of the new empire was little else than folk-lore, empiricism, priestly tradition, and magic, with no underlying knowledge of the structure of the body and no unifying theory of disease, except the elementary notion of malign influences.

In later times the Greeks learned Egyptian empiricism and engrafted it on a basis of philosophy. The other later Egyptian papyri down to the Greek period show no advance on the knowledge represented by the Papyrus Ebers.

We pass over a thousand years and from Egypt to Greece.

and we take as our representative work of Greek medical literature the writings ascribed to Hippocrates. My copy is the Aldine, the first printed edition produced at Venice in 1525. The Father of Medicine, born at Cos, lived most of his active life at Larissa, in Thessaly, and died there about B.C. 390. Of the fifty-six works here ascribed to him, only seven are certainly genuine—the book on air, water, and soil, two of the three books on epidemics, the prognostics, the prorrhethics, or predictions, the aphorisms and the diet of acute diseases; possibly the “wounds of the head” may be genuine. Six others were almost certainly written by Polybius (his disciple), two probably by Thessalus (his son), and the others by later writers of the Dogmatic School which he founded. The seventh genuine work is the oath which he exacted of his disciples, which is one of the most significant evidences showing what manner of man he was. It runs somewhat thus:

“I swear by Apollo the Physician, by Asklepios, by his daughters Hygieia and Panacea, and by all the Gods and Goddesses, that to the best of my ability and judgment I will faithfully keep this oath and obligation. The master that has instructed me I will esteem as my parents, and shall supply as occasion may require with the comforts and necessities of life. His children I will regard as my own brothers, and, if they desire to learn, I will instruct them in the same art without any reward. The precepts, the explanations, and whatsoever else belongs to the art I will communicate to my own children and to such other pupils as have subscribed to this oath, and to no others. My patients shall be treated by me to the best of my power and judgment in the best manner without injury or violence. Neither will I be prevailed upon by another to administer pernicious physic, nor will I be the author of such advice myself. I shall never recommend means to produce abortion, but will live and practice chastely and religiously. I will not meddle with lithotomy, leaving that to operators of that art. Whatever house I am called to attend I will aim at making the patient's good my chief aim, avoiding all injury, corruption, and unchastity, and whatever I hear in the course of practice relating to the affairs of life that ought to remain secret nobody shall ever know from me. May I be prosperous, and honored, and esteemed by all men as I observe this solemn oath, and may the reverse be my lot if I violate it and forswear myself.”

The works of Hippocrates would easily supply material for the whole time at our disposal, but they are accessible to you at any library in many editions in Greek, Latin, or English, and you will find them well worthy of perusal.

Along with Hippocrates as a pioneer we may bracket Theophrastus of Eresium, the first writer on *materia medica*. He was born about the date of Hippocrates's death, and became an active medical and philosophical teacher. He collected all the herbal lore of the day, and wrote this book on the history of plants, in which he described about 500 species, giving the medical properties of each. There is much of interest in it even yet, and it remained a classic authority on the subject down to the seventeenth century. His teleology and his reverence for the Great First Cause made his writings popular as long as education was controlled by the Church. My translation is the first Latin edition, printed and published at the famous press of Cratander of Basel, 1534. The translator, Theodore Gaza, was one of the most remarkable of the band of scholars who, after the Dark Ages, brought back the philosophy and culture of Greece to Europe in the early fifteenth century.

(*To be continued.*)



Correspondence.

Editor of AMERICAN PHYSICIAN:

You miscomprehend my several letters of past few months. My object was *suggestions* of correctness for the print of our transactions, in honor of Homeopathy; the classical education of S. Hahnemann, and the oldest medical organization in U. S. A.

The *suggestions* were only offered to you as Secretary of A. I. H. that you might adopt some of them, if you comprehended any of them, leaving the terms of superstition with the irregulars (allopaths). *I did not desire to force them upon you.* I was not worried or concerned about the language or grammar of Frank Kraft, M.D. He may use dialects, or Pidgin English, etc., but for above reasons, I think we all should endeavor to progress in place of degressing, with excuses of "custom," "habit," "you know," etc. I hope you will publish this in your journal, to correct the injustice you have done me (p. 237, June issue AMERICAN PHYSICIAN).

Fraternally, etc.,

JOHN F. EDGAR, M.D.

AMERICAN INSTITUTE OF HOMEOPATHY.

The following resolutions in relation to the Homeopathic Pharmacopeia of the United States and the proposed amendment to the National Pure Drug Act, were unanimously adopted by the American Institute of Homeopathy at its meeting in Kansas City, June, 1908:

Resolved, That in order to obtain the benefits of the uniformity of preparation which the pharmacopeia secures and at the same time to give homeopathic pharmacists further opportunity to comply with the obvious demands of the profession, all homeopathic pharmacists are requested to prepare their remedies on and after January 1, 1909, according to the Homeopathic Pharmacopeia of the United States and to state the fact that they are so prepared upon the label placed upon the box, bottle, or other container, so that physicians may know the official preparations of homeopathy from the numerous unofficial remedies of varying strengths that have hitherto been in use.

Resolved, That physicians are urged to demand of their pharmacists remedies prepared according to the Homeopathic Pharmacopeia of the United States, so that with remedies of a known uniform strength we may have a more scientific and useful literature.

Resolved, That copies of the above resolutions shall be sent to every homeopathic pharmacist and to every homeopathic college, hospital, medical society, and medical journal in the United States.

Resolved, That the American Institute of Homeopathy—the National Society of the homeopathic medical profession of the United States—in meeting assembled would respectfully demand of Congress when it again assembles, the passage of an amendment to the Food and Drugs Act which would add the words “or in the Homeopathic Pharmacopeia of the United States” after the words “National Formulary” wherever they occur in the law. We would demand this in order that the standards in the Food and Drugs Act may be made complete by providing for the uniform strength and preparation of nearly three hundred fresh plant tinctures which are at present unprovided for, and also that justice may be done to thousands of physicians whose scientific remedies are classed among the proprietary or quack remedies.

Resolved, That the Interstate Committee and the Committee on Medical Examining Boards and Medical Legislation be instructed to render all possible aid to the Committee on Pharmacopeia to secure the passage by Congress of the proposed amendments to place the Homeopathic Pharmacopeia of the United States in the Food and Drugs Act.

Globules.

—Dr. J. Richey Horner of Cleveland, Ohio, was elected Secretary of the American Institute of Homeopathy at the meeting of the Executive Committee of the Institute, held August 17 at Kansas City. Dr. Horner fills the unexpired term of the late Dr. Frank Kraft.

—Edward H. Phillips, M.D., Hahnemann Medical College, Philadelphia, 1868; for several years secretary of the board of education of Cape May, N. J.; died at his home, September 20, aged seventy-nine.

—Dr. Hutchinson calls attention to, and quotes with great approval, the method of treatment devised by Ochsner. This is essentially medical in character; it aims at preventing the diffusion of infection from the appendix by abolishing the peristalsis of the small intestines. This it is claimed can be effected by thoroughly emptying the stomach and then withholding all food, and as far as possible even drink, by the mouth. It is claimed that by this method the inflammation can be induced in a large percentage of cases to localize itself as a walled-in abscess in the cecal region. It is even suggested that the pus of this abscess may, under favorable conditions, be absorbed, and no trace of the disease remain save a few adhesions. Ochsner's statistics based on nearly 1,000 cases are said to show a decrease in mortality from 14.6 per cent. to 3.4 per cent.; this seems indeed a striking result, and the method may well be worthy of trial, even though the case-mortality may not be so high as in Germany—a circumstance which is probably due to the fact that our surgeons are on the whole not disposed to indiscriminate and early operation in the acute stage of the disease.

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Geo. F. Tyson, M.D., Evanston, Ill.

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FIBROLYSIN IN THE TREATMENT OF CONTRACTED SCARS.

Objections have been raised against thiosinamine that it is but little soluble in water; that injections are painful when it is dissolved in alcohol; and that it is inactive when taken internally. A new preparation has more or less recently been introduced under the name of fibrolysin, which is a chemical combination of thiosinamine and sodium salicylate. It is freely soluble in hot or cold water, but the solution undergoes oxidation when kept in the presence of air and light. It has therefore been put up in sealed vials, in which the solution seems to be indefinitely stable. Each vial contains 2.3 cc. of a solution of 1.5 gm. of fibrolysin in 8.5 gm. of water. Each thus corresponds to 0.2 gm. of thiosinamine.

F. Mendel deals at some length with the theoretical and practical aspect of this preparation. He shows that fibrolysin is non-toxic in therapeutic doses. After intravenous injection the substance is split up into its constituents, and a garlic-like odor is noted in the expired air. Intra muscular injection is to be preferred to the subcutaneous injection, and at times even to intravenous injection. It is painless, is active, and easy to carry out. The allyl odor is noticeable after the injections, but, since this is but of short duration and is an indication of the rapid splitting up of the compound, it must be regarded as a sign of the activity of the preparation. After discussing the selective action on scar tissue, which has been determined by careful microscopical observation, he turns to the method of application and the dosage. Intravenous application must be carried out with scrupulous aseptic precautions. The corpuscles are not damaged in the least degree by the drug. The fluid should never be injected before a column of blood has entered the syringe when the piston is withdrawn, so that one is certain that the needle is inside the lumen of the vein. For adults 0.2 gm. of thiosinamine—that is, 2.3 cc. of fibrolysin—is injected as a dose. Children require less, but seldom less than half this dose. The injections should be repeated every one, two, or three days, according to the severity of the case. The maximum number of injections which the author as employed was fifty. Individual susceptibility toward the drug is met with at times. The symptoms produced in these cases are headache, sleepiness, and feeling of malaise. Fever also has been met with. He speaks of the results which he obtained with fibrolysin, and states that they are satisfactory, provided one does not expect the scars to stretch unless active dilatation

MEDICAL PROGRESS.

can be applied—for example, it will be useless in pyloric stenosis unless the muscular wall is still in good condition.

Becker also praises the action of fibrolysin. He obtained excellent results in Dupuytren's contraction and in the after-treatment of injuries. Stiff joints only respond to the treatment to a certain extent, and the complete mobilization of the joint must not be expected if inflammatory conditions have taken place.

H. Lang speaks of the good results which he has obtained in urethral stricture with fibrolysin. He reports on two cases which he has been able to follow closely. In one case a traumatic stricture of fifty-three years' standing was softened and dilated by its means, and in both cases no tendency to recontract has yet shown itself. The cures had lasted for seventeen weeks in the first case and fourteen weeks in the second, so that, although he does not wish to speak of permanent cures, it looks as if the strictures will not reform, at all events rapidly.—*British Med. Jour.*, June 6, 1908.



ANTIPHLOGISTINE VERSUS OPIUM.

Inflamed states of the various organs of the body frequently give rise to pain of such urgent character as to demand active steps looking to its relief. Upon seeing the patient for the first time (he has called his physician because his suffering has become intolerable), the medical attendant is met with a peremptory demand for relief from the suffering. With a willingness, which frequently overrides their better judgment, some physicians resort to the hypodermic needle indiscriminately, and, in too many cases, a greater evil has followed the lesser one. The free habit of using morphine or some other form of opium is not a judicious practice, and for several reasons. The exact seat of an inflammation, for instance, might become difficult to locate, and thus a clear diagnosis interfered with. But the greater objection to the use of opium is the possibility of adding a recruit to the ever growing army of habitués. Every time there occurs to a doctor the apparent need for opium he should deliberate well before resort is had to the needle. If, after careful consideration, his best judgment advises the use of opium, it should be given in some form by mouth. If the needle is used the patient at once knows what he is getting, but he is not so likely to acquire this information if it be given otherwise. For relieving the pain of the inflammations Antiphlogistine will easily take the place of opium. The relief following may not be so prompt and so complete, but the edge of the suffering is taken off within a short time, and soon the patient is in a comfortable condition and has escaped the possi-

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bility of becoming addicted to a drug. There is not the likelihood that a patient, relieved from pain by it, will begin eating or using Antiphlogistine in any other way—which likelihood is the greatest disadvantage of opium. In the future let your morphine become stale, and keep your Antiphlogistine fresh—use it in inflammation.—The Medical Era.



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The growth was removed by a chemical antidote, and the patient was given Pepto-Mangan in doses of one tablespoonful three times a day, when the patient was discharged cured. The growth upon examination showed it to be epithelioma.

I could give a number of similar cases of cancer of the eye, nose, and mouth where I have prescribed Pepto-Mangan with the best results, and in no case did constipation, nausea, or digestion difficulties follow its administration.—E. Mather, M.D., Detroit, Mich.



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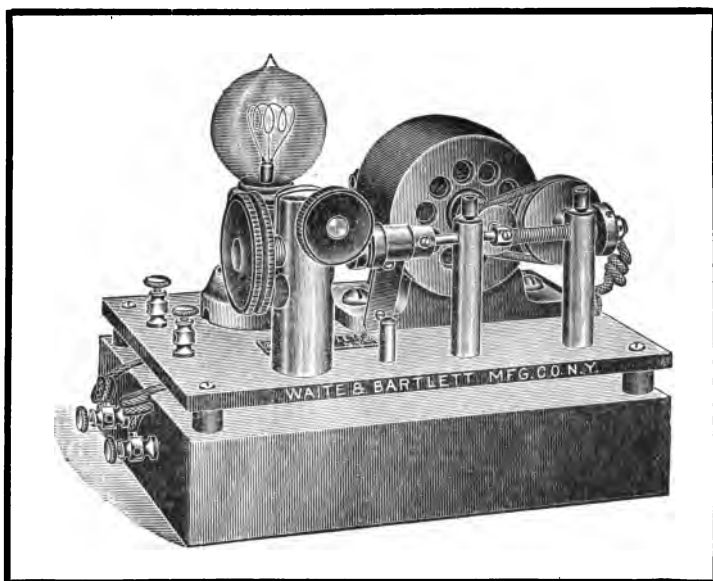
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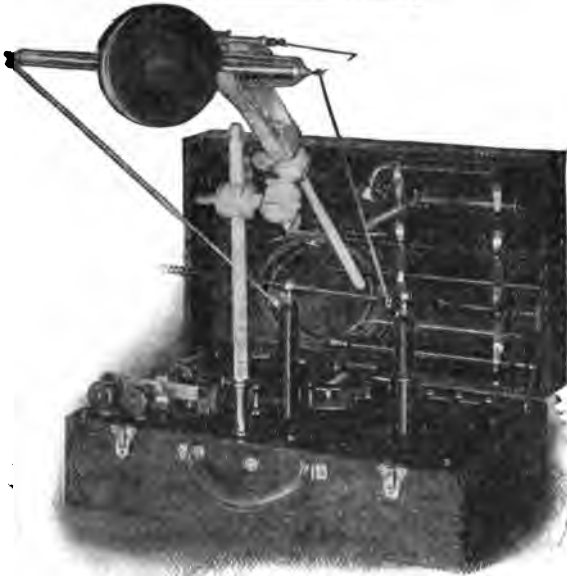
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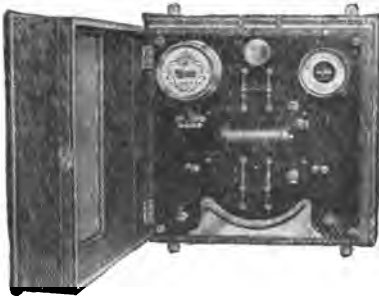
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